

CLAIMS

1. A filter medium for an air filter having fibers bound together by a binder to form a non-woven fabric, characterized in that;

5 said binder has as its main ingredient a polymer dispersion having a copolymer of a hydrophilic monomer and a hydrophobic monomer dispersed in water.

2. A filter medium for an air filter according to Claim 1, wherein said copolymer is polymerized by using an organic 10 peroxide as a polymerization initiator.

3. A filter medium for an air filter according to Claim 1 or 2, wherein said hydrophilic monomer is at least one selected from acrylic acid, methacrylate, and methallyl sulfonate, and wherein said hydrophobic monomer is at least one selected from 15 ethylene, propylene, acrylic ester, methacrylate ester, and styrene.

4. A method for manufacturing a filter medium for an air filter comprising a step of forming a non-woven fabric by binding fibers by a binder, characterized in that;

20 said binder has its chief ingredient a polymer dispersion having a copolymer of a hydrophilic monomer and a hydrophobic monomer dispersed in water.

5. A method for manufacturing a filter medium for an air filter according to Claim 4, said copolymer is polymerized by 25 using an organic peroxide as a polymerization initiator.

6. A method for manufacturing a filter medium for an air filter according to Claim 4 or 5, wherein said hydrophilic monomer is at least one selected from acrylic acid, methacrylate,

and methallyl sulfonate, and wherein said hydrophobic monomer is at least one selected from ethylene, propylene, acrylic ester, methacrylate ester, and styrene.

*Sub A2*

7. A method for manufacturing a filter medium for an air filter according to any one of Claims 4 to 6, wherein said polymer dispersion is obtained by first dissolving said hydrophilic monomer in water, adding said hydrophobic monomer to this solution and dispersing said hydrophobic monomer in said solution, and adding said polymerization initiator to form a copolymer, and wherein volatile organic substances are removed from said polymer dispersion by any one treatment of vacuum suction, aeration, nitrogen purging, and steam injection.

8. An air filter comprising:

a filter medium according to any one of Claims 1 to 3 or 15 a filter medium manufactured by a method according to any one of Claims 4 to 6; and

a frame and a sealing material incapable of generating gaseous organic substances,

wherein said air filter is assembled in a space free of 20 gaseous organic substances.

*Sub B1*

9. A clean room having an air filter according to Claim 8 installed therein.

10. A local clean equipment having an air filter according to Claim 8 installed therein.

*Sub B2*

11. A local clean equipment having installed therein a chemical filter for trapping organic substances <sup>at least one of</sup> and/or inorganic substances and also having installed therein an air filter for trapping suspended particulate substances in the air,

said air filter being installed downstream of said chemical filter, characterized in that; an air filter according to Claim 8 is installed as said air filter.